

IN THE CLAIMS:

Please amend Claims 1-3, 6, 7, and 10-15, as indicated below. The following is a complete listing of claims and replaces all prior versions and listings of claims in the present application:

1. (currently amended) A wireless communication system comprising first and second wireless communication devices, wherein

said first wireless communication device comprises:

an interface unit adapted to receive a selection of a data processing function specified by an operator;

a first detection unit adapted to detect a plurality of beacons at a plurality of frequencies;

a first connection unit adapted to connect to ~~a network configured by~~ a base station that transmitted a beacon detected by said first detection unit, in accordance with network identification information included in the beacon detected by said first detection unit to search for a wireless communication device capable of performing the data processing function selected by the operator via the interface unit;

a first transmission unit adapted to transmit a search ~~request-signal, to search for~~ searching for the wireless communication device capable of performing the data processing function selected by the operator via the interface unit, to ~~[[a]] one or more~~ wireless communication devices ~~device~~-connected to the base station ~~network~~-connected to by said first connection unit;

a second detection unit adapted to detect, among the one or more wireless communication devices connected to the base station network—connected to by said first connection unit, ~~[[a]]~~ the wireless communication device capable of performing the data processing function selected by the operator via the interface unit, based on a response signal—~~that the wireless communication device connected to the network connected to by first said connection unit has transmitted~~ received in response to the search ~~request signal transmitted by said first transmission unit;~~

a display unit adapted to selectably display information associated with the wireless communication device detected by said second detection unit so as to determine a wireless communication partner; and

a control unit adapted to, when the operator selects the information displayed by said display unit, while said first detection unit performs a detection process to detect the plurality of beacons ~~beacon~~, terminate the detection process of said first detection unit and execute connection processing with ~~[[a]]~~ the wireless communication device—~~selected by~~ associated with the selected information, and

said second wireless communication device comprises:

a second connection unit adapted to connect to a ~~network configured by a base station at~~ any of a plurality of frequencies; and

a second transmission unit adapted to transmit ~~[[a]]~~ the response signal including ~~[[self]]~~ identification information of said second wireless communication device—~~as the response signal~~, when the search signal ~~request information~~ is detected while the second wireless communication device is in a wireless reception waiting state and is ~~on the network connected to the base station~~ by said second connection unit.

2. (currently amended) A wireless communication device comprising:

an interface unit adapted to receive a selection of a data processing function specified by an operator;

a first detection unit adapted to detect a plurality of beacons at a plurality of frequencies;

a connection unit adapted to connect to ~~a network configured by~~ a base station that transmitted a beacon detected by said detection unit, in accordance with network identification information included in ~~[[a]]~~ the beacon detected by said first detection unit to search for a wireless communication device capable of performing the data processing function selected by the operator via the interface unit;

a transmission unit adapted to transmit a search ~~request signal, to search for~~ searching for the wireless communication device capable of performing the data processing function selected by the operator via the interface unit, to a wireless communication device connected to the base station network ~~connected to~~ by said connection unit;

a second detection unit adapted to detect, among one or more wireless communication devices connected to the base station network ~~connected to~~ by said connection unit, ~~[[a]]~~ the wireless communication device capable of performing the data ~~[[data]]~~ processing function, based on a response signal ~~that the wireless communication device on the network connected to by said connection unit has transmitted~~ received in response to the search ~~request~~ signal ~~transmitted by said transmission unit~~;

a display unit adapted to selectably display information associated with the wireless communication ~~device unit~~ detected by said second detection unit so as to enable identification of a wireless communication partner; and

a control unit adapted to, when the operator selects the information displayed by said display unit, while said first detection unit is performing a detection process to detect the plurality of beacons ~~beacon~~, terminate the detection process of said first detection unit, and perform ~~execute~~ connection processing with ~~[[a]] the~~ wireless communication device ~~specified by associated with~~ the selected information.

3. (currently amended) The device according to claim 2, wherein

said second detection unit stores, in a memory, identification information of ~~[[a]] the~~ wireless communication device on a partner side included in ~~[[a]] the~~ response signal ~~to the search request signal~~, upon reception of the response signal, and

said display unit selectably displays the identification information stored in the memory.

4. (previously presented) The device according to claim 2, wherein each of the wireless communication device and the wireless communication partner is one of: an image sensing device, a device for executing a print process of a sensed image, and a storage device for executing a storage process of a sensed image.

5. (canceled)

6. (currently amended) The device according to claim 2, wherein, when no signal is received in response to the search ~~request~~-signal within a predetermined period of time, an error display is made.

7. (currently amended) The device according to claim 2, further comprising:
a determination unit adapted to determine if the beacon detected by said first detection unit is in an adhoc communication mode or in an infrastructure communication mode, and,

when said determination unit determines that the detected beacon is in the adhoc communication mode, said transmission unit transmits the search ~~request~~-signal toward a wireless communication processing device as a generation source of the detected beacon, and,

when said determination unit determines that the detected beacon is in the infrastructure mode, said transmission unit transmits the search ~~request~~-signal toward an access point.

8. (previously presented) The device according to claim 2, further comprising a registration unit adapted to register, in a memory, information associated with a connection to the partner wireless communication device, to which a wireless communication has been established.

9. (previously presented) The device according to claim 8, further including a mode for executing a process for establishing a wireless communication based on the information registered by said registration unit.

10. (currently amended) A wireless communication device that is configured to switch between a history search mode and a new search mode, and performs ~~executes~~ a communication process in each mode, wherein, in the history search mode, the wireless communication device communicates with a partner wireless communication device that had been communicated with previously, and wherein, in the new search mode, the wireless communication device communicates with a newly searched for partner wireless communication device, the wireless communication device comprising:

a storage unit adapted to store device identification information and network identification information ~~[[of]]~~ associated with a partner wireless communication device to which the wireless communication device has been connected previously;

an instruction unit that is operated by a user to select one of the history search mode and the new search mode;

a beacon detection unit that operates in the new search mode and that detects a plurality of beacons;

a search unit adapted to, in the new search mode, compare network identification information included in ~~[[the]]~~ a detected beacon with the network identification information stored in said storage unit, cause said detection unit to detect another beacon, ~~[[if]]~~ when there is a match in the compared network identification information,

wherein, in the new search mode, ~~[[if]]~~ when a beacon including new network identification information is detected, the search unit searches a network configured by a base station that transmitted the beacon for a new partner wireless communication device, based on the new network identification information;

a first display unit adapted to, in the new search mode, selectably display device identification information of the new partner wireless communication device found by said search unit;

a second display unit adapted to selectably display the device identification information associated with the partner ~~of a~~ wireless communication device stored in said storage unit, ~~[[if]]~~ when the history search mode is selected by said instruction unit; and

a wireless communication establishment process unit adapted to, when device identification information displayed by one of said first and second display units is selected, perform ~~execute~~ a wireless communication establishment process with the wireless communication device associated with ~~specified by~~ the selected device identification information.

11. (currently amended) A wireless communication system comprising first and second wireless communication devices, wherein

said first wireless communication device comprises:

an interface unit adapted to receive a selection of a processing function specified by an operator;

a discrimination unit adapted to discriminate a type of device capable of performing ~~executing~~ the processing function selected by the operator via the interface unit;

a determination unit adapted to, when receiving beacons transmitted from devices on wireless networks, determine whether device identification information corresponding to the type discriminated by said discrimination unit is included in the received beacons; and

a display unit adapted to, selectably display information associated with ~~[[a]]~~ each device that transmitted a beacon including the device identification information corresponding to the type discriminated by said discrimination unit, and not to display information associated with ~~[[a]]~~ each device that transmitted a beacon not including the device identification information corresponding to the type discriminated by said discrimination unit, and

said second wireless communication device comprises:

an informing unit adapted to include device identification information indicating ~~[[a]]~~ the processing function into a beacon and transmitting the beacon to the wireless network, and

when information of said second wireless communication device among information displayed by said display unit is selected, a process for establishing a communication between said first and second wireless communication devices is performed ~~executed~~.

12. (currently amended) A wireless communication device comprising:

an interface unit adapted to receive a selection of a processing function specified by an operator;

a discrimination unit adapted to discriminate a type of device capable of performing ~~executing~~ the processing function selected by the operator via the interface unit;

a determination unit adapted to, when receiving beacons transmitted from devices on wireless networks, determine whether device identification information corresponding to the type discriminated by said discrimination unit is included in the received beacons; and

a display unit adapted to selectably display information associated with ~~[[a]]~~ each device that transmitted a beacon including the device identification information corresponding to the type discriminated by said discrimination unit, and not to display information associated with ~~[[a]]~~ each device that transmitted a beacon not including the device identification information corresponding to the type discriminated by said discrimination unit.

13. (currently amended) A method performed by a wireless communication device, the method comprising:

receiving a selection of a data processing function specified by an operator via an interface unit;

detecting a plurality of beacons at a plurality of frequencies;

connecting to ~~a network configured by~~ a base station that transmitted a detected beacon, in accordance with network identification information included in the detected beacon to search for a wireless communication device capable of performing the data processing function selected by the operator;

transmitting a search ~~request signal, to search~~ for searching for the wireless communication device capable of performing the data processing function selected by the operator via the interface unit, to a wireless communication device connected to the network connected to;

detecting, among one or more wireless communication devices connected to the base station network ~~connected to~~, ~~[[a]]~~ the wireless communication device capable of performing the data processing function selected by the operator via the interface unit, based on a response

~~signal that the wireless communication device on the network connected to has transmitted~~
received in response to the search ~~request-signal-transmitted~~;

selectably displaying information associated with the wireless communication device detected to be capable of performing the data processing function selected by the operator via the interface unit so as to enable identification of a wireless communication partner; and,

when the operator selects the information displayed while a detection process is being performed to detect the plurality of beacons~~-beacon~~, terminating the detection process and performing~~executing~~ connection processing with ~~[[a]]~~ the wireless communication device associated with~~specified by~~ the selected information.

14. (currently amended) A method performed by a wireless communication device, which has a memory for storing device information and network identification information ~~[[of]]~~ associated with a partner wireless communication device that has been connected to previously, which is configured to switch between a history search mode and a new search mode, and which performs~~executes~~ a communication process in each mode, wherein, in the history search mode, the wireless communication device communicates with ~~[[a]]~~ the partner wireless communication device associated with the~~corresponding to~~ device information ~~[[is]]~~ stored in the memory, and wherein, in the new search mode, the wireless communication device communicates with a newly searched for partner wireless communication device, the method comprising:

determining an operator's instruction that instructs one of the history search mode and the new search mode;

~~performing-executing~~, in the new search mode, a beacon detection process of detecting a plurality of beacons;

comparing network identification information included in a detected beacon with the network identification information stored in the memory;

[[if]] when there is a match in the compared network identification information, continuing the detection process to detect another beacon, and

[[if]] when the detected beacon includes new network identification information, searching a network configured by a base station that transmitted the detected beacon for a new partner wireless communication device, based on the new network identification information;

in the new search mode, selectably displaying device identification information [[of]] associated with the new partner wireless communication device found on a display unit;

selectably displaying the device identification information associated with the ~~of a~~ wireless communication device stored in the memory on the display unit, [[if]] when the operator has ~~is determined to have~~ instructed the history search mode; and

~~performing-executing~~, when device identification information that is displayed is selected, a wireless communication establishment process with the wireless communication device associated with ~~specified by~~ the selected device identification information.

15. (currently amended) A method performed by a wireless communication device, the method comprising:

receiving a selection of a processing function specified by an operator via an interface unit;

discriminating a type of device capable of ~~performing~~ executing the processing function selected by the operator via the interface unit;

when receiving beacons transmitted by devices on networks, determining whether device identification information corresponding to the type discriminated is included in the received beacons; and

selectably displaying information associated with ~~[[a]]~~ each device that transmitted a beacon, in accordance with a result of the determining, including the device identification information corresponding to the type discriminated, and not to display information associated with ~~[[a]]~~ each device that transmitted a beacon not including the device identification information corresponding to the type discriminated.

16. (previously presented) The device according to claim 2, wherein said data processing function includes at least one of a data printing function and a data saving function.